NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

HYDROLOGIC SERVICE AREA (HSA)
WFO Jackson, Mississippi

MONTHLY REPORT OF HYDROLOGIC CONDITIONS

REPORT FOR:
MONTH: **June** YEAR: **2010**

TO: Hydrometeorological Information Center, W/OH2
NOAA / National Weather Service
1325 East West Highway, Room 7230
Silver Spring, MD 20910-3283

SIGNATURE
Alan E. Gerard, Meteorologist In-Charge

DATE
07/12/2010

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

☐ **An X inside this box indicates that no river flooding occurred within this hydrologic service area.**

Synopsis...

The month of June was characterized by above normal temperatures and below normal rainfall. The only exceptions to the below normal rainfall trend were scattered throughout South and Northeast Mississippi where some rainfall amounts were at or above normal. Typical summertime isolated to scattered showers occurred each day across the Hydrologic Service Area (HSA).

The month began with strong southerly flow across the region. Isolated to scattered showers and thundershowers were common across the HSA on the 1st and the 2nd. A surface disturbance in the northern Gulf of Mexico and an upper level low pressure center progressing eastward from Texas produced some heavier showers and thunderstorms over southern sections of Mississippi and southern portions of Northeast Louisiana. Isolated to scattered showers prevailed over the remainder of the HSA through the 5th. Rainfall totals ranged from 1.00 to 5.00 inches across southern sections of the HSA over this period. A weak cold front pushed across the area on the 6th and stalled over South Mississippi by the morning of the 7th. Isolated to scattered showers, generally less than 1.00 inch, were produced by the front as it moved across the area. Surface high pressure moved into the region behind the front.

With high pressure at the surface, an upper level low slowly moved from South Texas to Northeast Arkansas from the 8th until the 10th. Isolated to widely scattered showers occurred most days with more widespread rainfall occurring over Southeast Arkansas, northern portions of Northeast Louisiana, and across portions of North Mississippi on the afternoon of the 9th into the 10th. Rainfall for this period ranged from 0.50 to 2.00 inches. By the morning of the 11th, strong southerly flow continued into the region to our west. As the upper low moved into Central Arkansas, severe flash flooding occurred over Southwest Arkansas. Across the HSA on the 11th, only scattered to isolated showers occurred as high pressure at the surface and an upper level ridge began to strengthen. This pattern remained in place through the 28th allowing only isolated to scattered showers and temperatures ranging from the mid 90s to near 100 degrees across the HSA.

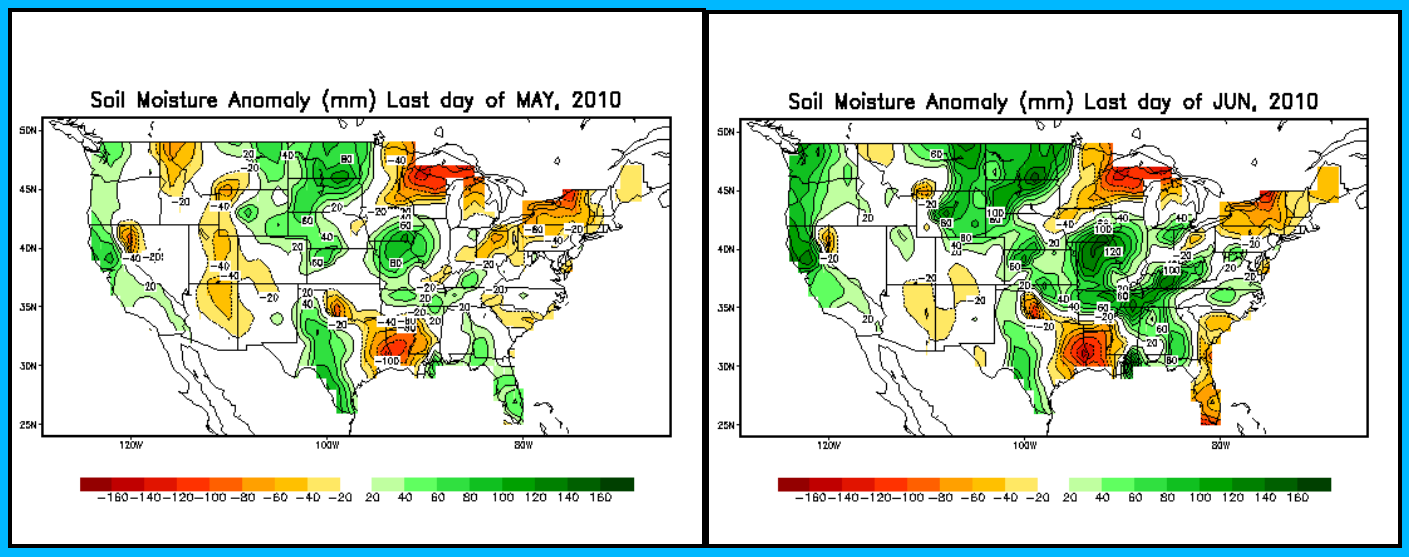
The only day shower activity was a little more widespread was on the 15th. Rainfall amounts ranged from 0.10 to 2.00 inches. Tallulah LA received 1.99 inches of rainfall. As far as temperatures go, Greenville, MS actually hit 100 degrees on the 19th and 20th.

By the morning of the 29th, Hurricane Alex began moving into the Southwest Gulf of Mexico as a front slowly dropped across the area from the north. A combination of a moist southeast flow around Alex and the frontal boundary caused rainfall coverage to increase from isolated to scattered across the region through the end of the month. Some local areas received from 2.00 to 3.00 inches of rainfall.

River and Soil Conditions...

Below normal rainfall continued for the month of June over Northeast Louisiana and the southern Yazoo Delta Region where amounts ranged from 15 to 50 percent of normal. Pockets of at or above normal rainfall totals ranging from 100 to 175 percent of normal were more common over South Mississippi and East Mississippi and Southeast Arkansas.

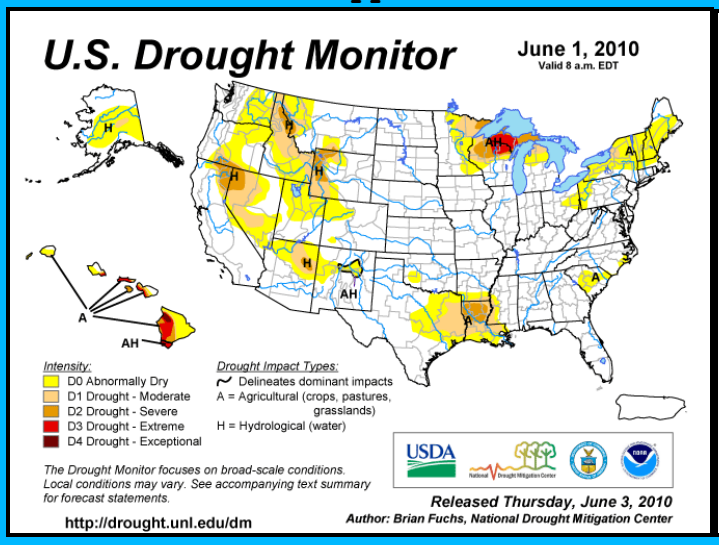
Soil moisture continued to drop across Northeast Louisiana where deficits ranged from 4.00 to 5.00 inches below normal. Soil moisture deficits remained in the 1.00 to 3.00 inch range over Southeast Arkansas, Central and West Mississippi. Soil moisture in the eastern one-third of the HSA was near normal.

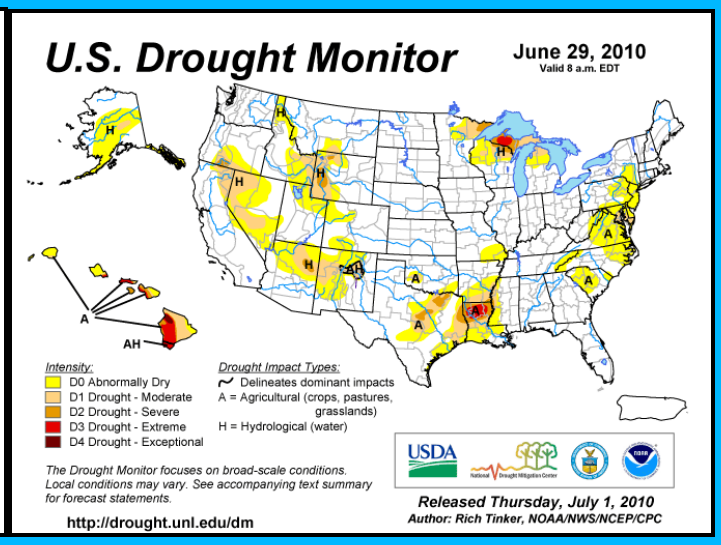


Soil Moisture anomaly (departure from normal): (25.4mm = 1 inch)

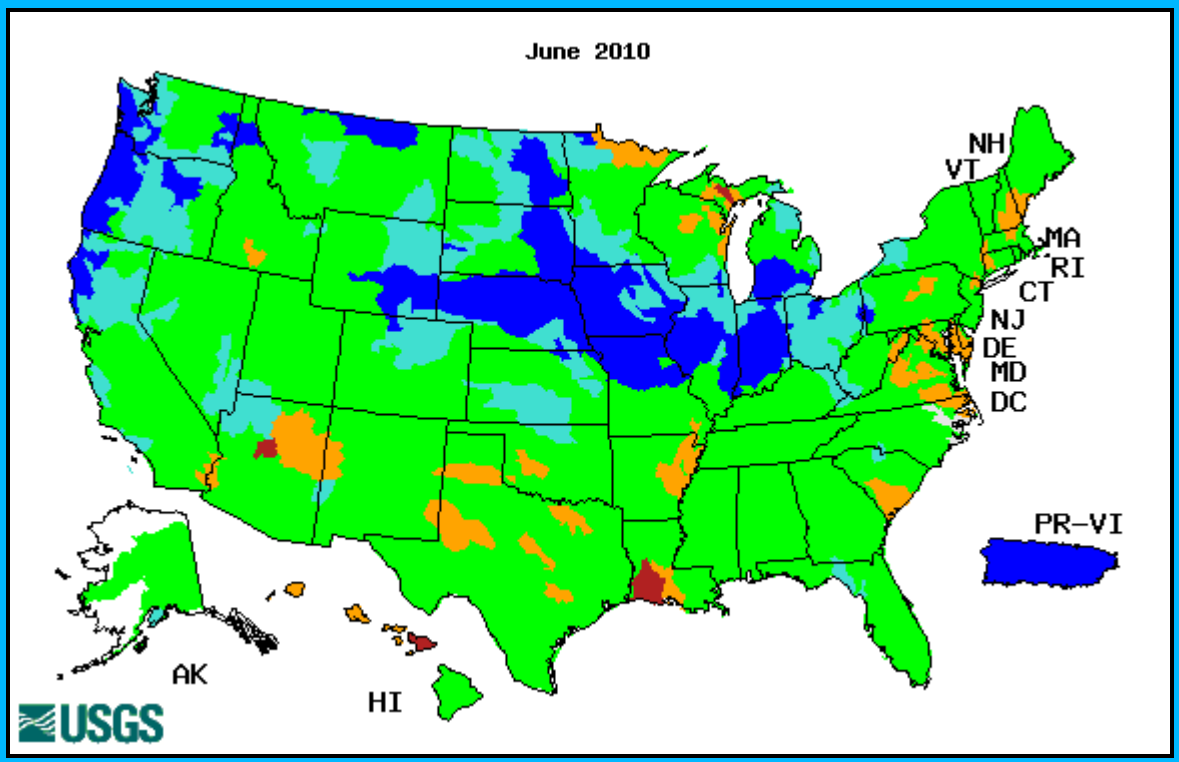
A comparison of the June 1st U.S. Drought Monitor to the June 29th U.S. Drought Monitor showed drought conditions increasing from severe to extreme in northern portions of Northeast Louisiana. Conditions in Southeast Arkansas and extreme West Central Mississippi increased from abnormally dry to moderate. Severe Drought conditions remain over southern portions of Northeast Louisiana and abnormally dry conditions remain confined to

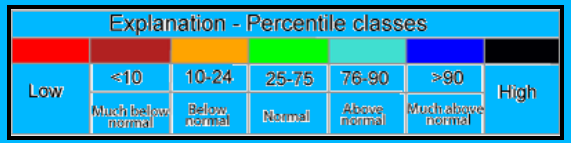
Southwest Mississippi.





The United States Geological Survey's (USGS) June 2010 river streamflow records were compared with all historical June streamflow records. Most river systems showed streamflow in the normal range. In Northeast Louisiana, streamflows were approaching below normal conditions as dry conditions continue.





With the scattered nature of the rainfall during the month, little changes to minor rises occurred across the river systems in the HSA.

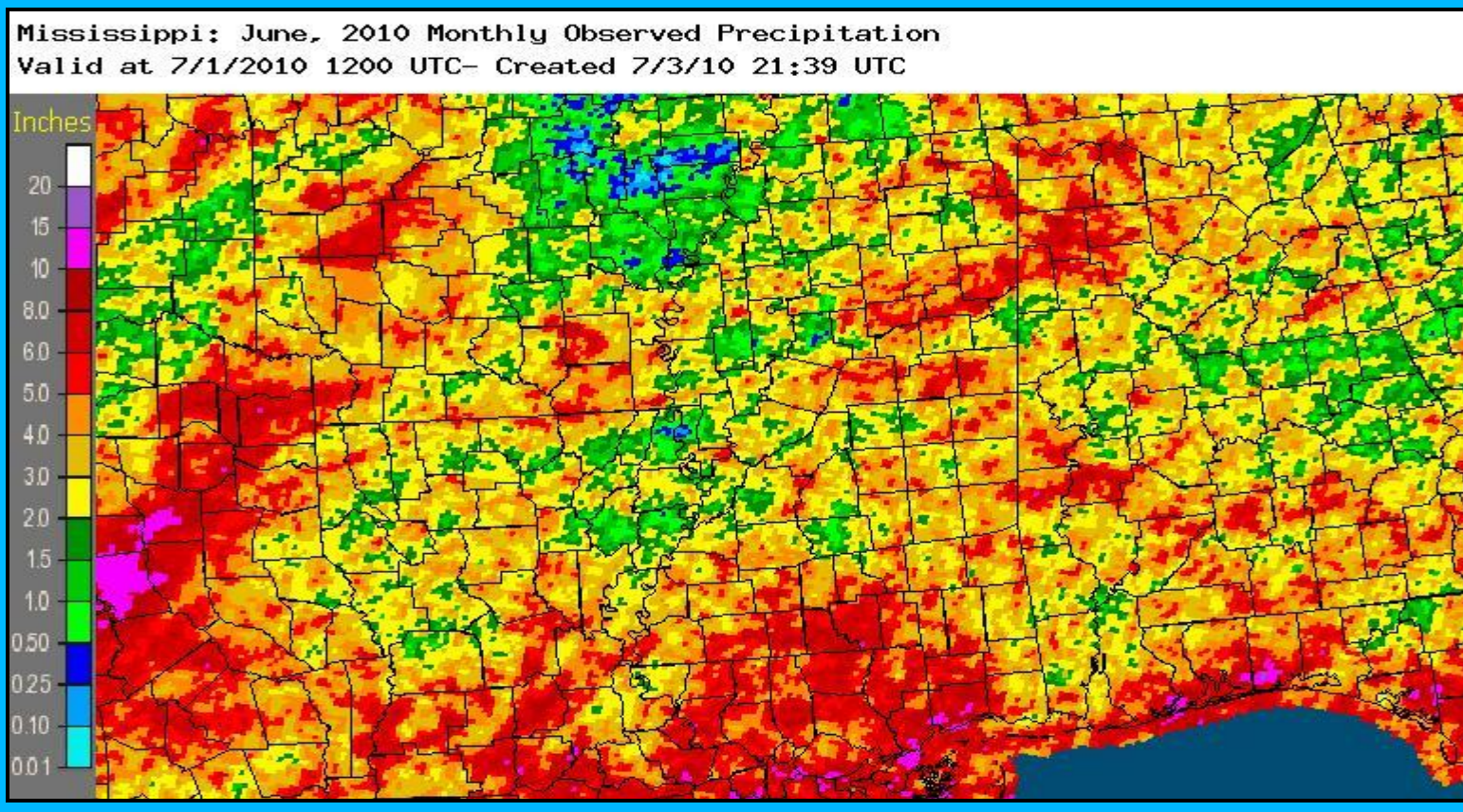
The Mississippi River continued to recede during the first half of the month which allowed Natchez to fall below flood stage. A minor rise occurred during the remainder of the month.

Based on current soil moisture conditions, current streamflow conditions, and an expected above normal rainfall over southern and central portions of HSA and near normal over northern portions of HSA, the flood potential for next 60 to 90 days is expected to be:

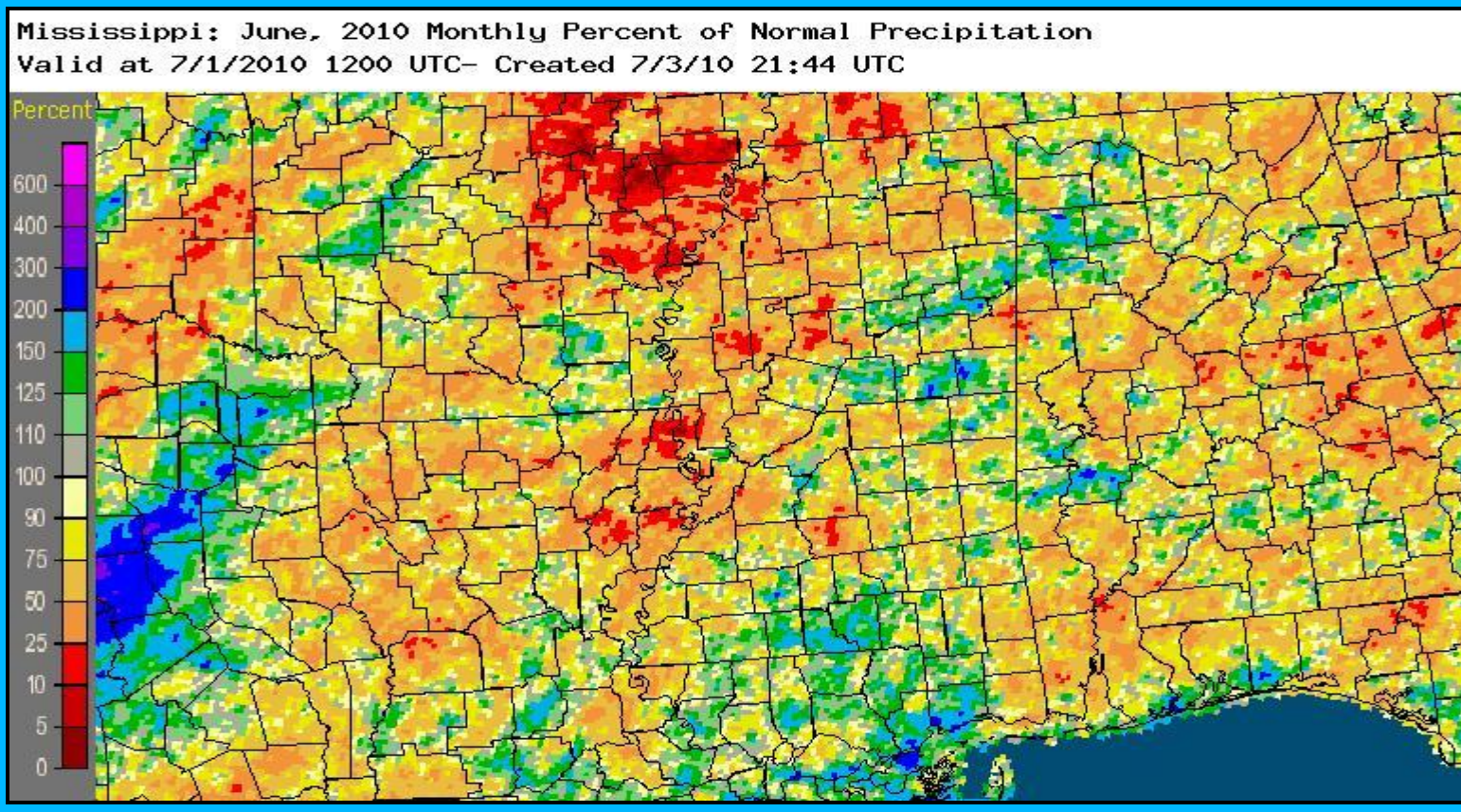
Pearl River System:	**Normal.**
Yazoo River System:	**Normal.**
Big Black River System:	**Normal.**
Homochitto River System:	**Below Normal.**
Pascagoula River System:	**Normal.**
Northeast LA and Southeast AR:	**Below Normal.**
Tombigbee River System:	**Normal.**
Mississippi River:	**Normal.**

Rainfall for the month of June

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on May 31st until 7 am on June 30th were: 6.33 inches at Ross Barnett Reservoir tower, MS; 5.31 inches at Macon, MS; 5.26 inches at Crawford, MS; 5.14 inches at Hattiesburg, MS; and 4.92 inches at Eupora, MS; The lowest rainfall totals in the HSA were 0.16 inches at Lake Providence, LA; 0.40 inches at Grenada Dam, MS; 0.47 at Grenada, MS; 0.51 inches at Rolling Fork, MS; and 0.46 inches at Pioneer, LA.



June 2010 Rainfall Estimate



June 2010 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

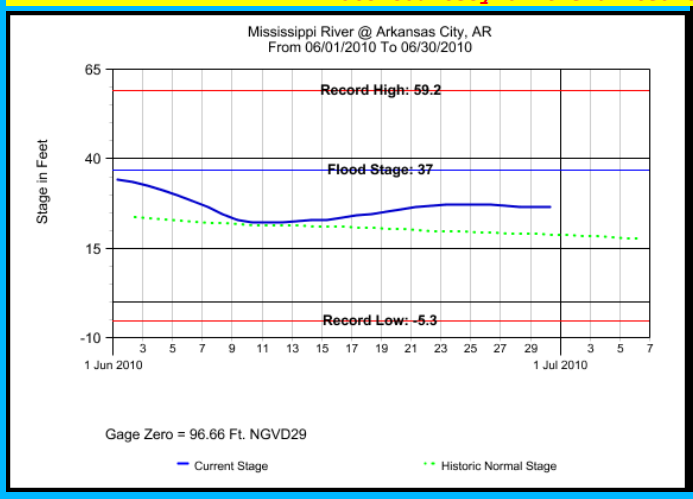
June rainfall for Selected Cities...

City (Airport)	June Rainfall	Departure from normal	2010 Rainfall	2010 Departure from Normal
Jackson, MS	5.91	+2.09	23.68	-6.89
Meridian, MS	4.55	+0.56	26.49	-2.59
Greenwood, MS	1.28	-3.22	22.60	-4.29
Greenville, MS	1.89	-2.62	M	M
Hattiesburg, MS	2.77	-1.57	21.43	-7.51
Vicksburg, MS	2.58	-2.06	M	M

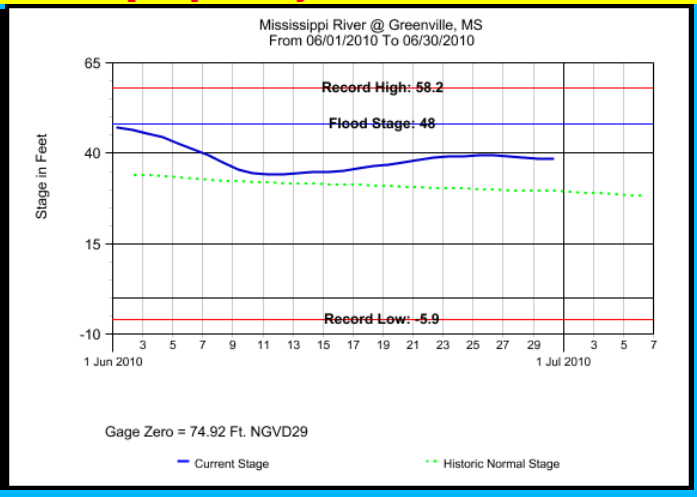
Mississippi River...

Mississippi River Plots for June, 2010

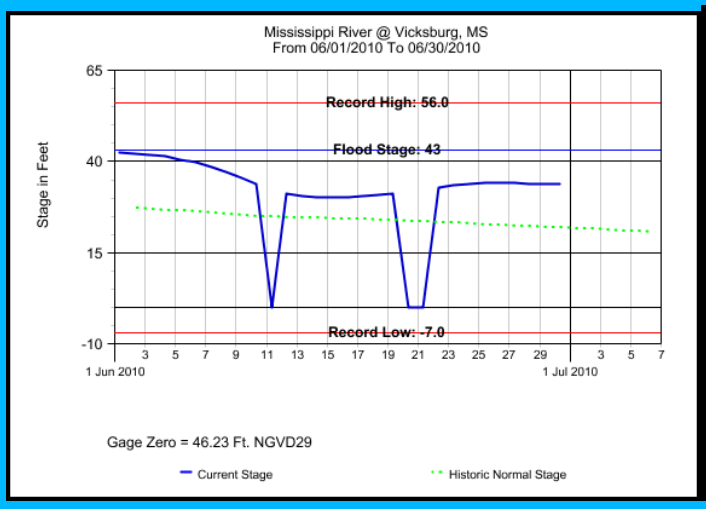
Plots Courtesy of the United States Army Corps of Engineers

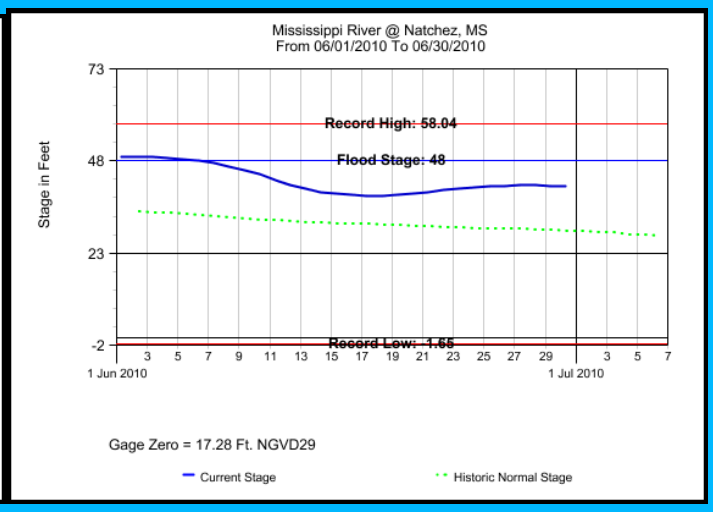


Arkansas City, AR



Greenville, MS





Vicksburg, MS (note bad data near 0.00) Natchez, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date
Arkansas City, AR	37	34.36	06/01/10	22.04	06/11/10
Greenville, MS	48	47.21	06/01/10	34.21	06/12/10
Vicksburg, MS	43	42.51	06/01/10	30.16	06/16/10
Natchez, MS	48	49.31	06/01/10	38.46	06/17/10

Total Flood Warning products issued: 0
Total Flood Statement products issued: 12
Total Flood Advisories MS River : 0
Daily Rainfall Products (RRA'S) issued: 30
Daily River Forecast Products (RVS'S) issued: 30
Daily River Stage products (RVA'S) issued: 30

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Service Hydrologist

&

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Assistant Hydrologist/Observing Program Leader (OPL)

Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley

Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District